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Workshop for UNIDO/INTIB National Focal Points on
Industrial Information Networking and Co-operation

Moscow, USSR, 30 May–3 June 1988

# REPORT*

*This document has not been edited

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## Explanatory notes

The following abbreviations are used in this report:

| | |
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| ALIDE | Asociacion Latinoamericana de Instituciones Financieras de Desarrollo |
| APCTT | Asian and Pacific Centre for Transfer of Technology |
| ARCT | African Regional Center for Technology |
| FID | International Federation for Information and Documentation |
| GKNT | USSR State Committee for Science and Technology |
| ICSTI | International Centre for Scientific and Technological Information |
| IDA | Industrial Development Abstracts |
| IDRC | International Development Research Centre |
| IEO | Industry and Environment Office, UNEP |
| ILO | International Labour Organisation |
| INSTEAD | Information Service on Technological Alternatives for Development, ILO |
| INTIB | Industrial and Technological Information Bank |
| ISTEI | Institute for Scientific, Technical and Economic Information |
| NFP | National Focal Point |
| NISP | National industrial statistics programme |
| OFFR | Offer of technology data base |
| REQT | Request for technology data base |
| RFP | Regional Focal Point |
| RITLA | Latin American Technological Information Network |
| SME | Small and medium enterprises |
| VENT | Joint venture opportunities data base |
| VINITI | All-Union Institute of Scientific and Technical Information |

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# I. RECOMMENDATIONS

## Recommendations addressed to Member States

Member States through their competent authorities are requested to:

1. Organize programmes and activities to improve interaction between the National Focal Points (NFPs) and users, particularly entrepreneurs or small and medium enterprises (SMEs);

2. Develop and/or upgrade telecommunication infrastructure facilities, benefitting from recent technological developments and the subsequent cost reductions;

3. Seek to co-ordinate NFP activities in the field of industrial information with other technical assistance programmes in industrial development;

4. Encourage South-South co-operation in the exchange of expertise and personnel;

5. Conduct surveys of user needs of industrial information and analyse feedback from them to improve the services and credibility of NFPs;

6. Encourage NFPs to disseminate industrial information and data bases generated locally through the Industrial and Technological Information Bank (INTIB) to other member countries upon request;

7. Examine the suitability of all technical means of communication available locally to improve their telecommunication infrastructure and facilities;

8. Encourage the creation of NFPs where they have not yet been established and select the national organization most appropriate to local conditions.

## Recommendations addressed to the Regional Centres

The Regional Centres involved in industrial development are called upon, in collaboration with UNIDO, to:

1. Organize regional training courses, workshops and seminars in the various specializations needed by NFPs and encourage the participation

of local experts in the region in the organization and implementation of such activities;

2. Co-ordinate and support national activities and services, procedures and working practices;

3. Provide technical assistance in establishing and/or strengthening NFPs;

4. Convene regular meetings of heads of NFPs to report on the development of their activities, exchange experiences, suggest improvements in operations and plan joint activities.

**Recommendations addressed to UNIDO**

*In its efforts to strengthen NFPs, UNIDO should:*

1. Continue its work in clarifying the role, modus operandi and internal organization of NFPs and prepare guidelines for this purpose. Case studies of the operation of the more established NFPs should provide valuable inputs for these guidelines.

2. Disseminate more widely guidelines on accessing its data bases and information on the full range of information available in INTIB.

3. Offer advice and technical support in developing communication facilities and acquiring hardware.

4. Provide NFPs with directories of reliable sources of other types of information not usually available in INTIB.

5. Support the development of national data bases to meet industrial information needs in member countries.

6. Provide technical support and advice for the development of national nodes in the national network.

7. Organize a series of training courses, workshops and seminars, both at the national and regional level as appropriate, and in co-operation with other bodies, in the multitude of specializations needed for the effective operation of an NFP. The aim should be for maximum involvement of competent persons and co-operation of organizations within the INTIB network. Of particular importance is training in modern methods

of accesssing data bases, and in the repackaging of information to suit user needs at the local level.

8. Support such activities with training material in printed and other audio visual forms. As a first phase of the operation, local trainers should be trained.

*In the further development of UNIDO/INTIB operations it is recommended that UNIDO:*

1. Define more sharply the scope of INTIB specialized information resources, so as to project the image of a specialized information supplier.

2. Develop further its thesaurus, upgrade its software and tools and streamline codes so as to facilitate system interfacing.

3. Adopt, actively support and promote the use of international communication standards as they are developed.

4. Continue its efforts to develop expert systems for the selection of the best sources for particular types of information.

*In enhancing the impact of INTIB activities on industrial development in general, UNIDO is called upon to:*

1. Establish and/or strengthen linkages with other international, regional and national organizations engaged in similar activities, through the exchange of material and expertise and the implementation of complementary programmes and projects.

2. Co-operate with other UN organizations, particularly ILO and UNEP in the field of access to data bases of interest to SMEs.

3. Include an industrial information component in technical assistance projects for industrial development, wherever appropriate.

4. Continue the practice of enlisting the participation of advisers and consultants from developing and developed countries, familiar with the information scene and the needs of member countries in the further development of INTIB activities.

5. Prepare a library of videotapes suited to the particular information needs of entrepreneurs of SMEs and promote their dissemination in national languages.

## II. INTRODUCTION

### Background Information

One of the functions of UNIDO is to serve as a clearing-house for industrial information. Accordingly, it collects and monitors, on a selective basis, and analyses and generates for the purpose of dissemination, information on all aspects of industrial development on global, regional and national levels as well as on sectoral levels. This activity includes the exchange of experience and technological achievements of the industrially developed and the developing countries with different social and economic systems.

The Industrial and Technological Information Bank (INTIB) of UNIDO is encouraging the establishment of an INTIB network made up of National Focal Points (NFPs) and nodes (specialized sources of information) in its Member States to facilitate INTIB activities in the respective countries. The focal points and nodes generally provide information services specializing in industry and technology, and are typically chambers of commerce, associations of small and medium industries, research and development institutions, engineering consulting firms, development banks, technology transfer promotion agencies etc.

The focal points and nodes co-operate with UNIDO partly on the basis of formal agreements and partly in an informal way. This co-operation requires further development and improvement, which was endorsed by the Second Meeting of the Advisory Group of INTIB, held in Vienna in October 1986, and which constituted the main subject of the workshop.

The elements of the INTIB medium-term plan have been endorsed by the Industrial Development Board, which has encouraged continuing the industrial inquiry service but with greater emphasis on networking through NFPs and nodes.

UNIDO invited the heads of 40 selected INTIB NFPs from developing and developed countries, representatives of regional technology centres, UN and other international organizations to the workshop.

The objectives of the workshop were as follows:

1. To strengthen and improve further the INTIB network on industrial and technological information exchange and develop further co-operation among the INTIB NFPs and nodes;

2. To strengthen, structure and organize NFPs for the collection and exchange of industrial and technological information among the members of the network of INTIB NFPs to improve the information service system;

3. To establish and strengthen online/offline computer linkages between UNIDO/INTIB and the NFPs;

4. To train INTIB NFP members on INTIB data bases (i.e. Offer of Technology, Joint Venture Opportunities, Request for Technology, Industrial Development Abstracts), the National Industrial Statistics Programme (NISP) and the IBM electronic mail service system;

5. To strengthen the International Centre for Scientific and Technical Information (ICSTI) as a regional focal point (RFP) of INTIB in ICSTI's member countries;

6. To draw up recommendations for UNIDO technical assistance to developing countries in the field of industrial and technological information.

## Organization

The workshop was jointly organized by the United Nations Industrial Development Organization (UNIDO), the USSR State Committee for Science and Technology (GKNT) and the International Centre for Scientific and Technical Information (ICSTI), Moscow. The workshop was attended by 71 participants and observers from 30 countries, four regional organizations, two UN organizations, four non-governmental organizations, three UNIDO consultants as well as four representatives from UNIDO. Annex I contains a list of participants and observers; Annex II contains the programme of the workshop.

At the beginning of the opening session, Mr. A.V. Butrimenko, Director of ICSTI, welcomed the participants and expressed his Centre's appreciation for UNIDO's efforts. He reviewed the composition and activities of ICSTI, which now includes 11 countries and invited other countries to join. ICSTI has established close relations with many other UN Organizations and is now operating as an INTIB RFP. He wished

the Workshop success and welcomed any requests from the participants to inspect the Centre or to become better acquainted with its activities.

Mr. Fernando S. Souto, Deputy Director-General, Department for Industrial Promotion, Consultations and Technology, UNIDO, welcomed the participants and conveyed to them the greetings and best wishes of the Director-General of UNIDO.

He noted that scientific-technological information services are a main component of UNIDO activities in the technological field. He emphasized that development of UNIDO services depends on national support and the ability to use information. However, the main purpose of this Workshop was to strengthen the focal points and their relations with one another and with UNIDO. He thanked the participants for attending, stating that their deliberations will hopefully provide useful inputs to forthcoming UNIDO programmes for several years to come. He thanked the Soviet host organizations for the excellent arrangements and hospitality that would no doubt contribute to the success of the meeting.

Mr. J. Prokhorov representing the USSR State Committee for Science and Technology welcomed the participants to Moscow and considered this to be one of the more important meetings held in the USSR since UNIDO became an independent organization. He noted that the organization of the meeting reflected the new arrangements of UNIDO to serve all its members. Many issues relating to industrial development call for scientific–technological information, hence this meeting was arousing considerable interest among Soviet specialists. He thanked the staff of ICSTI for their efforts in organizing the meeting and expressed his best wishes to every participant and for the success of the meeting.

Professor P.V. Nesterov, Director of VINITI, and representing FID, reviewed the historical development of FID, which now includes 70 national members and 300 members from 90 countries working together to promote the exchange of information through co-operation in all fields of knowledge. He noted that FID has good working relations with UNIDO and emphasized that co-operation is the motto of the age.

### Election of Officers

The meeting was invited to elect a chairman, alternate chairman and rapporteur. The meeting unanimously elected:

1. Chairman: Professor Adam Wysocki, Adviser, Institute for Scientific,

2. Alternate Chairman: Mr. A. V. Butrimenko, Director, International Centre for Scientific and Technological Information (ICSTI), Moscow, USSR

3. Rapporteur: Mr. U. A. El-Kholy, Senior Adviser, Kuwait Institute of Scientific Research, Safat, Kuwait

## III. WORKING SESSIONS

### Review of the reports from the National Focal Points

The main item on the agenda was the review and discussion of 29 national reports prepared by the representatives of the NFPs from four geographic regions: Africa, Asia, Latin America and the Caribbean, and East European countries. Each report dealt with the issues outlined in the Aide-Memoire circulated by UNIDO with invitations to attend. Each country has developed its own organization to suit the varied industrial, information and managerial levels of development, with one national body nominated as the NFP. Approaches and methods of information processing and dissemination varied from the conventional to the modern with considerable variation in the quantity and quality of hardware, software, communication facilities and manpower capabilities.

There was general agreement, however on the need to develop effective two-way mechanisms for information flow, at the national, regional and international levels and to upgrade information systems and operating practices continuously to suit the stages of development of national industry and its changing capabilities and needs, particularly priority types of information, through surveys and feedback processes.

Eleven reports from the African region were unanimous in giving high priority to manpower development in the various specializations needed to operate effective industrial information systems and services. They emphasized the importance and great need for such information systems for potential users at various levels and in different sectors and to enhance the cabilities of the NFPs, and consequently their credibility. In several cases the absence of an adequate communication infrastructure was cited as another major obstacle in the development of the NFPs. In almost all countries, SMEs were singled out as the most important actual or potential users of INTIB services. In this respect, they pointed out

specific industrial sectors, relating this to the acquisition of detailed information about INTIB data bases and other types of information, particularly on technologies. A number of reports suggested that INTIB should also handle industrial and technological information generated within the member countries and disseminate it throughout INTIB network. They also proposed co-operative programmes in training, exchange of expertise and personnel and other forms of South–South co-operation.

The seven reports presented by Asian countries again showed a wide variety in national situations, capabilities and experiences. In some countries, the industrial information centres are the hubs of networks connected to users and nodes by telephone and relay lines, while few countries use satellite communication. The centres serve large-, medium- and small-scale enterprises although all of them are confronting some problems in providing information suitable for the needs of SMEs. The spectrum of needs is very broad, ranging from new products and technological innovations to management, administration, trade and finance. The main problems faced by the NFPs are the difficulties encountered in obtaining information and repackaging it in a suitable form, problems of telecommunication, organization of NFPs, the unification of methods and codes and the shortage of qualified manpower. Proposals were made for the sharing of experiences amongst member countries, for assistance to NFPs through the provision of tools and equipment, and for the organization of international training courses in INTIB operations. Other suggestions were for assistance in the acquisition of documents, the establishment of on-line links with UNIDO/INTIB in Vienna, advice on networking and on the acquisition of other types of industrial information, e.g. business practices and legal aspects of technology transfer.

The four reports of the Eastern European countries reflected a somewhat different scene, since all countries are members of the International Centre for Scientific and Technological Information (ICSTI) in Moscow and have developed industrial information systems and services and adequate communication facilities. However, the choice of an institution as the NFP has varied from country to country so as to suit local conditions and national priorities. Several countries expressed their willingness to provide the INTIB technology data base with information on their technologies, to assist UNIDO/INTIB in the development of software, codes, tools and methods, as well as in organizing training courses, and the preparation of training material in INTIB operations. Member countries were also invited by one representative to participate in

specific and specialized fields. Some delegates expressed their willingness to support the development of an expert system for the evaluation of products and technologies, and to provide information on industrial patents in their countries. It was remarked that while the location and structure of the NFP may change from country to country, the national nodes should be chosen to relate to well-defined fields of INTIB activity. Some participants emphasized the importance of developing capabilities and methods in the evaluation of technologies and products at the local level. Calls were also made to aim at making the NFPs self-supporting through contributions, both from the suppliers and users of industrial and technological information.

There were also five reports from Latin American and Caribbean countries, which showed that around two thirds of industrial enterprises are SMEs. Since large-scale industrial enterprises have their own information systems, the SMEs are the main actual, or potential, users of INTIB services. Experience has shown that the NFPs need to have adequate infrastructures in order to fulfil their task effectively. Emphasis is placed on the need to provide information in a structured form suitable for the needs of the users in SMEs. The NFPs are called upon to exert more effort in strengthening their relations with the users, and in surveying their needs and analyzing the feedback received from them. Assistance is needed from UNIDO/INTIB in developing such capabilities in the NFPs. All reports emphasized once more the imperative of training in the variety of specializations needed to operate an effective NFP. Some participants called upon UNIDO to support RITLA when it becomes fully operational. Suggestions were also made for co-operative training programmes, exchange of experiences and surveys of existing networks. Again the packaging of information, this time in the national languages, was emphasized.

**Reports of National, Regional and International Organizations:**

Three regional reports were presented and discussed. First, the ARCT report reviewed its activities as an INTIB RFP in Africa, supporting the NFPs in its Member States. It emphasized the basic need of a good communications infrastructure for the effective operation of a regional network of NFPs and suggested a well co-ordinated monitoring activity of the operation of the NFPs, to be reviewed by a joint UNIDO/Regional Centre Committee meeting once a year to elaborate the tasks needed for improving tools, methods of exchange of information, funding and staff training.

The experience of the APCTT was markedly different and reflected the stage of industrial development and historical depth of many of its Member States and of the centre itself. APCTT has developed useful approaches to the issues of technological policy, evaluation, acquisition and exploitation, which could be made available to the INTIB Network.

The ALIDE representative noted the high interest of industrial development banks in Latin-American countries for technological information in order to improve the process of evaluation and financing of projects. ALIDE offered its services for this purpose and will submit concrete proposals to UNIDO. The representative from France expressed his appreciation of the quality of the papers presented and the high standard of the discussions and expressed his Government's readiness to co-operate in the collection of industrial information in French from various sources in France through direct access using software in French for the francophone NFPs, as well as in the compilation of catalogues or investment opportunities in different countries and various industrial sectors for potential investors in France.

The representative from IDRC pointed out that the Centre has been dealing with many regional and national INTIB focal points and has sought to re-inforce their capabilities in harmony with the efforts of international organizations and in the framework of UNIDO activities and especially in the field of industrial and technological information. He commended UNIDO publications as a useful source of information adapted to the needs of developing countries and called on the developing countries to make more use of them. He recommended providing the IDA data base on Micro CDS/ISIS, as well as a selection of UNIDO documents on microfiche. He stated that IDRC is prepared to consider giving assistance in the establishment of electronic communication between focal points through involvement of IDRC's Information Science Division in assessing new information and communication technologies, e.g. computer-based messaging, teleconferencing, CD-ROMs, packet-switching satellite communication, particularly in Africa. Owing to the limitations on resources, he suggested that UNIDO and IDRC consider implementing joint or complementary projects in supporting INTIB focal points and nodes.

Two UN Organizations participated in the meeting. The ILO representative reviewed the developments leading to the start of INSTEAD operations in 1988, describing the services it provides. He referred to the co-operation between ILO and UNIDO in the collection, processing and dissemination of industrial and technological information and in joint

willingness of ILO to co-operate with the NFPs, particularly in serving small and rural industry, which has been the focus of attention of ILO for several years. In particular ILO offers INSTEAD services free of charge to all NFPs. It is also authorising them to translate and reproduce ILO documents and would be happy to assist the NFPs in strengthening their capabilities.

The representive of UNEP drew attention to the growing importance of environmental considerations in industrial development and reviewed the activities and information services and systems developed by UNEP, and more specifically by the IEO in Paris, to serve industry in developing and developed countries. These cover referral systems, data bases, query services, networks and publications. He concluded by inviting the NFPs to avail themselves of UNEP services and systems in providing the variety of types of information and specific technical assistance on environmental issues they may need in supporting industrial development in their countries.

The FID representative noted with satisfaction that contact has been established with UNIDO and is beginning to bear fruit. For example, FID has just completed one study for UNIDO. He drew attention to the FID specialized committee on industrial information and the forthcoming conference later this year on information as a strategic tool for industrial competitiveness. The theme of the congress is "Information, Knowledge, Evolution." FID already has two regional commissions (Asia–Oceania and Latin America) and one for Africa is being formed. He welcomed intellectual contributions from member countries to the FID journal, the *International Forum on Information and Documentation.*

The representative of VINITI drew attention to the fact that his institute has been co-operating closely with UNIDO for many years, particularly in organizing training courses, in three languages, to upgrade skills of industrial information officers, both theoretically and practically.

### Future Development of INTIB

A report by a UNIDO expert gave an interesting and informative review of current and expected trends in the field of international co-operation in scientific–technological and industrial information. The workshop proceeded to discuss the impact of those trends on the future development of INTIB and its operations.

In view of the remarkable development in INTIB activities since the Ad-

radical developments in the international information scene as highlighted in that report, the participants agreed that it was necessary to discuss in some depth ideas regarding future development of INTIB that would distinguish it as the source of types of information it specializes in. Because of the urgent need to integrate scientific and technological information with many other types of specialized information to serve the needs of industrial development, it is suggested that UNIDO/INTIB:

- Establish and/or strengthen linkages with other UN Organizations working in the field at the operational level;

- Provide NFPs with directories on reliable sources of other information relevant to industrial development in general;

- Continue its efforts in developing expert systems for the selection of the best sources for particular types of information.

As far UNIDO's position in the information market, soon to be dominated by commercial data bases supported by heavy investments, UNIDO/INTIB, could – apart from maintaining its highly specialized data bases as mentioned above – expand its programme of activities, particularly in training, assistance and guidance in establishing, operating and managing FPs, in developing appropriate software, and building national capabilities in the repackaging of information for developing countries, particularly SMEs at the local level.

It was also noted that UNIDO should – as a matter of policy – integrate its information activities with other technical assistance operations, particularly its advisory and extension services.

A typology for the organization of INTIB made up of a hierarchy of three tiers was suggested. At the national level, NFPs collect and deliver information and co-ordinate industrial information activities in the country. At the regional level, services, procedures and programmes are co-ordinated and assistance provided in establishing NFPs. At the international level, activities proceed at the global level, linking with different data bases, operating query services and supporting regional and national focal points. Information should flow up and down smoothly between the three levels through clear communication channels.

As for the question of charging the users of INTIB services, the participants drew attention to the ethical dimension in charging at the local level for services obtained free from Vienna. On the other hand, it was

pansion in INTIB activities, which is expected to continue at an accelerated rate, it may become necessary to consider ways and means for a pattern of operation that will be self-supporting to increasing degrees. In all cases, the needs of the countries, particularly those at an early stage of industrial development, must transcend financial considerations. On the other hand, cost reduction approaches, particularly through co-operative efforts and voluntary contributions, should be pursued vigorously.

As for interfacing of the INTIB Global Network with other electronic information systems there was concensus that UNIDO should vigorously promote the adoption of international standards developed by ISO and CCITT as they come out and help all Member States in adopting them.

Finally, on the question of serving the needs of SMEs, which are in the majority in member countries and which need industrial information services the most, the role of advisory and extension services in packaging information in the appropriate manner was emphasized once more. Such services need to be as close as possible to the SME. The meeting urged UNIDO to include an INTIB component in all its technical assistance programmes and projects. In this respect, the preparation of audio-visual aids, particularly a library of video tapes suited to the needs of SMEs, was suggested by some delegates and received unanimous endorsement.

**Presentations and training sessions:**

Presentations were made on:

- IBM Value Added Networks;
- UNIDO/IBM Electronic Mail Communication Network;
- INTIB data bases (OFFR/VENT/REQT/NODE/IDA) and the National Industrial Statistics Programme (NISP).

Presentations and/or training sessions were organized for all the participants organized into regional groups.

A list of documents and country papers appears in Annex III.

## IV. ADOPTION OF THE REPORT

After detailed discussions, the workshop adopted the Report. The workshop made a strong recommendation to UNIDO and the Member States for early implementation of the activities suggested at the workshop.

## V. ACKNOWLEDGEMENTS

The workshop expressed its deep appreciation for the efforts made by UNIDO, GKNT, and ICSTI for the organization of the workshop and offered special thanks to ICSTI for providing excellent host facilities.

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## Annex II Workshop Programme

*Monday, 30 May 1988*

| | |
|---|---|
| 10.00–10.30 | Registration |
| 10.30–11.30 | Opening ceremony<br>Welcoming Address by ICSTI Director<br>Address by GKNT Representative<br>Address by UNIDO Representative<br>Election of Chairman and Rapporteur |
| 12.00–12.30 | Introduction of Global INTIB Networking:<br>Objectives, Developments and Achievements by<br>UNIDO Secretariat<br>Discussion |

| | |
|---|---|
| 14.30–15.30 | Presentation on IBM Value Added Network Services by Mr. L.G. McKenna<br>Discussion |
| 15.45–17.00 | Introduction of Trends of International Co-operation in Scientific, Technical and Industrial Information by Prof. A. Wysocki, UNIDO Consultant<br>Discussion |

*Tuesday, 31 May 1988*

| | |
|---|---|
| 10.00–13.30 | Review of African Region National/Regional Focal Points (NFPs) papers<br>Discussion |
| 14.30–17.00 | Review of Latin American and Caribbean Regions National/Regional Focal Points papers<br>Discussion |

*Wednesday, 1 June 1988*

| | |
|---|---|
| 10.00–11.30 | Review of Asian Region National/Regional Focal Points papers<br>Discussion |
| 11.45–13.30 | Review of East European Region National/Regional Focal Points papers |
| | Presentation by representatives of international/regional organizations and developed countries<br>Discussion |
| | Demonstration of UNIDO/IBM Electronic Mail Communications Network |
| 14.30–17.00 | Training on INTIB databases (OFFR/VENT/REQT/NODE and IDA) and National Industrial Statistics Programme (NISP) |
| | Drafting of concrete work programme and projects by regional groups |

*Thursday, 2 June 1988*

| | |
|---|---|
| 10.00–13.30 | Training and drafting of work programme continued |
| 14.30–17.00 | Preparation of report |

*Friday, 3 June 1988*

| | |
|---|---|
| 09.30–11.30 | Preparation of report continued |
| 11.45–13.30 | Adoption of workshop recommendations and INTIB focal points work programme |
| 14.30–17.00 | Study tour |

## Annex III List of Documents and Country Papers

1. Aide-Memoire

2. UNIDO Industrial and Technological Information Programme: Present Status and Future Development – UNIDO Secretariat paper

3. International Co-operation in the Information Field: Some new Trends and Tendencies by Prof. A. Wysocki

4. L'entreprise Nationale d'organisation et d'information, Point Focal National pour la Connexion avec le Reseau INTIB by L. Ouiguini, Algeria

5. Industrial Information in Cameroon by Mr. G. Nkodo

6. Industrial Information Development in Egypt by Dr. H. El Sherif and Mrs. Effat El Shooky

7. Information System in Ethiopia: A Brief Introduction by Mr. Petros Kasahun

8. Industrial and Technological Information in Ghana by Mr. M.N.B. Ayiku

9. INTIB National Focal Point in Kenya: Country Report by Mr. P.B. Imende

10. Industrial Information Networking and Co-operation: Nigerian Position by Mr. R.O. Sodipe

11. L'Information Industrielle et Technologique au Rwanda by Mr. J. Ndagiwenimana

12. Industrial and Technological Information in Senegal by Mr. A.M. Gaye

13. The Industrial and Technological Information Environment in Tanzania by Mrs. W.N.A. Nyonyi and S.N. Ole - Teveli

14. Tunisian National Paper on Industrial and Technological Information by Mr. D. Faouzi

15. The National Focal Point in China: China International Economic Information Centre by Mr. Dimo Zhang

16. The General Situation of National Information Service, the Information needs of Chinese Enterprises, and the Present Reform of the Scientific and Technical Information System in China by Mr. Wang Xi

17. Industrial and Technological Information: India by Mr. Vinay Kumar

18. The National Scientific and Technical Information System of the D.P.R. Korea and Strengthening the National Focal Point in the INTIB Focal Point Network by Mr. S.C. Kim and Mr. H.H. Ryong

19. Industrial and Technological Information in Mongolia (Russian) by Mr. B. Tsogoo

20. Towards a more Responsive Industrial Information Networking and Co-operation for the Philippines by Mrs. Elena D. Roaring

21. Vietnam Country Paper on Industrial and Technological Information by Dr. D.G. Dinh and T.T. Dung

22. Survey of the Scientific and Technical Information Services and Telecommunications Provisions in Bulgaria by Mr. B. Fotev

23. Czechoslovak Standpoint to INTIB Focal Point by V. Talasek

24. Technology Transfer from the GDR by L. Zaenker

25. Industrial and Technological Information in Turkey by Ms. F.A. Gumrukcuoglu

26. Industrial and Technological Information in Brazil: Present Situation and Trends by A.A. Briquet de Lemos

27. State of the Art of Scientific and Technical Information in Cuba by Mr. E.B. Gonzalez

28. Creation of an Industrial and Technological Information Centre in Mexico by J.A. Esteva Maraboto

29. Industrial and Technological Information in Peru by Mr. L. Casanova-Galvez

30. Towards Strengthening of INTIB Focal Point - CARIRI - within the context of Industrial and Technological Information Needs of Trinidad and Tobago by Mrs. Barbara Gumbs

31. The African INTIB Sub-Network: Experience and Perspectives by Mr. M. Timoulali

32. Strengthening Technology Information Services in Asia and the Pacific: The Role of APCTT by Mr. S.M. Junaid Zaidi

33. The Role of ALIDE and Latin American Development Banks Regarding Technological Information by Mr. Rommel Acevedo

34. IDRC Industrial Information Programme and Co-operation with UNIDO by Mr. Renald Lafond

35. ILO/UNIDO Collaboration for the Joint Dissemination of Technological Information through National Focal Points by Mr. M. Allal

36. UNEP/Industry and Environment Information System by Mr. B.Y. Megherbi

37. IBM Value Added Network Services by Mr. L.G. McKenna

38. Texte de l'Intervention Francaise by Mr. Charles Colas

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United Nations Industrial Development Organization

ORIGINAL: ENGLISH

Workshop for UNIDO/INTIB National Focal Points on
Industrial Information Networking and Co-operation

Moscow, USSR, 30 May–3 June 1988

# REPORT**

*Reissued for technical reasons
**This document has not been edited

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## Explanatory notes

The following abbreviations are used in this report:

| | |
|---|---|
| ALIDE | Asociacion Latinoamericana de Instituciones Financieras de Desarrollo |
| APCTT | Asian and Pacific Centre for Transfer of Technology |
| ARCT | African Regional Center for Technology |
| FID | International Federation for Information and Documentation |
| GKNT | USSR State Committee for Science and Technology |
| ICSTI | International Centre for Scientific and Technological Information |
| IDA | Industrial Development Abstracts |
| IDRC | International Development Research Centre |
| IEO | Industry and Environment Office, UNEP |
| ILO | International Labour Organisation |
| INSTEAD | Information Service on Technological Alternatives for Development, ILO |
| INTIB | Industrial and Technological Information Bank |
| ISTEI | Institute for Scientific, Technical and Economic Information |
| NFP | National Focal Point |
| NISP | National industrial statistics programme |
| OFFR | Offer of technology data base |
| REQT | Request for technology data base |
| RFP | Regional Focal Point |
| RITLA | Latin American Technological Information Network |
| SME | Small and medium enterprises |
| VENT | Joint venture opportunities data base |
| VINITI | All-Union Institute of Scientific and Technical Information |

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# I. RECOMMENDATIONS

## Recommendations addressed to Member States

Member States through their competent authorities are requested to:

1. Organize programmes and activities to improve interaction between the National Focal Points (NFPs) and users, particularly entrepreneurs or small and medium enterprises (SMEs);

2. Develop and/or upgrade telecommunication infrastructure facilities, benefitting from recent technological developments and the subsequent cost reductions;

3. Seek to co-ordinate NFP activities in the field of industrial information with other technical assistance programmes in industrial development;

4. Encourage South-South co-operation in the exchange of expertise and personnel;

5. Conduct surveys of user needs of industrial information and analyse feedback from them to improve the services and credibility of NFPs;

6. Encourage NFPs to disseminate industrial information and data bases generated locally through the Industrial and Technological Information Bank (INTIB) to other member countries upon request;

7. Examine the suitability of all technical means of communication available locally to improve their telecommunication infrastructure and facilities;

8. Encourage the creation of NFPs where they have not yet been established and select the national organization most appropriate to local conditions.

## Recommendations addressed to the Regional Centres

The Regional Centres involved in industrial development are called upon, in collaboration with UNIDO, to:

1. Organize regional training courses, workshops and seminars in the various specializations needed by NFPs and encourage the participation of local experts in the region in the organization and implementation of such activities;

2. Co-ordinate and support national activities and services, procedures and working practices;

3. Provide technical assistance in establishing and/or strengthening NFPs;

4. Convene regular meetings of heads of NFPs to report on the development of their activities, exchange experiences, suggest improvements in operations and plan joint activities.

**Recommendations addressed to UNIDO**

*In its efforts to strengthen NFPs, UNIDO should:*

1. Continue its work in clarifying the role, modus operandi and internal organization of NFPs and prepare guidelines for this purpose. Case studies of the operation of the more established NFPs should provide valuable inputs for these guidelines.

2. Disseminate more widely guidelines on accessing its data bases and information on the full range of information available in INTIB.

3. Offer advice and technical support in developing communication facilities and acquiring hardware.

4. Provide NFPs with directories of reliable sources of other types of information not usually available in INTIB.

5. Support the development of national data bases to meet industrial information needs in member countries.

6. Provide technical support and advice for the development of national nodes in the national network.

7. Organize a series of training courses, workshops and seminars, both at the national and regional level as appropriate, and in co-operation with other bodies, in the multitude of specializations needed for the effective operation of an NFP. The aim should be for maximum involvement of competent persons and co-operation of organizations within the INTIB network. Of particular importance is training in modern methods of accesssing data bases, and in the repackaging of information to suit user needs at the local level.

8. Support such activities with training material in printed and other audio visual forms. As a first phase of the operation, local trainers should be trained.

*In the further development of UNIDO/INTIB operations it is recommended that UNIDO:*

1. Define more sharply the scope of INTIB specialized information resources, so as to project the image of a specialized information supplier.

2. Develop further its thesaurus, upgrade its software and tools and streamline codes so as to facilitate system interfacing.

3. Adopt, actively support and promote the use of international communication standards as they are developed.

4. Continue its efforts to develop expert systems for the selection of the best sources for particular types of information.

*In enhancing the impact of INTIB activities on industrial development in general, UNIDO is called upon to:*

1. Establish and/or strengthen linkages with other international, regional and national organizations engaged in similar activities, through the exchange of material and expertise and the implementation of complementary programmes and projects.

2. Co-operate with other UN organizations, particularly ILO and UNEP in the field of access to data bases of interest to SMEs.

3. Include an industrial information component in technical assistance projects for industrial development, wherever appropriate.

4. Continue the practice of enlisting the participation of advisers and consultants from developing and developed countries, familiar with the information scene and the needs of member countries in the further development of INTIB activities.

5. Prepare a library of videotapes suited to the particular information needs of entrepreneurs of SMEs and promote their dissemination in national languages.

## II. INTRODUCTION

### Background Information

One of the functions of UNIDO is to serve as a clearing-house for industrial information. Accordingly, it collects and monitors, on a selective basis, and analyses and generates for the purpose of dissemination, in-

formation on all aspects of industrial development on global, regional and national levels as well as on sectoral levels. This activity includes the exchange of experience and technological achievements of the industrially developed and the developing countries with different social and economic systems.

The Industrial and Technological Information Bank (INTIB) of UNIDO is encouraging the establishment of an INTIB network made up of National Focal Points (NFPs) and nodes (specialized sources of information) in its Member States to facilitate INTIB activities in the respective countries. The focal points and nodes generally provide information services specializing in industry and technology, and are typically chambers of commerce, associations of small and medium industries, research and development institutions, engineering consulting firms, development banks, technology transfer promotion agencies etc.

The focal points and nodes co-operate with UNIDO partly on the basis of formal agreements and partly in an informal way. This co-operation requires further development and improvement, which was endorsed by the Second Meeting of the Advisory Group of INTIB, held in Vienna in October 1986, and which constituted the main subject of the workshop.

The elements of the INTIB medium-term plan have been endorsed by the Industrial Development Board, which has encouraged continuing the industrial inquiry service but with greater emphasis on networking through NFPs and nodes.

UNIDO invited the heads of 40 selected INTIB NFPs from developing and developed countries, representatives of regional technology centres, UN and other international organizations to the workshop.

The objectives of the workshop were as follows:

1. To strengthen and improve further the INTIB network on industrial and technological information exchange and develop further co-operation among the INTIB NFPs and nodes;

2. To strengthen, structure and organize NFPs for the collection and exchange of industrial and technological information among the members of the network of INTIB NFPs to improve the information service system;

3. To establish and strengthen online/offline computer linkages between UNIDO/INTIB and the NFPs;

4. To train INTIB NFP members on INTIB data bases (i.e. Offer of Technology, Joint Venture Opportunities, Request for Technology, Industrial Development Abstracts), the National Industrial Statistics Programme (NISP) and the IBM electronic mail service system;

5. To strengthen the International Centre for Scientific and Technical Information (ICSTI) as a regional focal point (RFP) of INTIB in ICSTI's member countries;

6. To draw up recommendations for UNIDO technical assistance to developing countries in the field of industrial and technological information.

## Organization

The workshop was jointly organized by the United Nations Industrial Development Organization (UNIDO), the USSR State Committee for Science and Technology (GKNT) and the International Centre for Scientific and Technical Information (ICSTI), Moscow. The workshop was attended by 71 participants and observers from 30 countries, four regional organizations, two UN organizations, four non-governmental organizations, three UNIDO consultants as well as four representatives from UNIDO. Annex I contains a list of participants and observers; Annex II contains the programme of the workshop.

At the beginning of the opening session, Mr. A.V. Butrimenko, Director of ICSTI, welcomed the participants and expressed his Centre's appreciation for UNIDO's efforts. He reviewed the composition and activities of ICSTI, which now includes 11 countries and invited other countries to join. ICSTI has established close relations with many other UN Organizations and is now operating as an INTIB RFP. He wished the Workshop success and welcomed any requests from the participants to inspect the Centre or to become better acquainted with its activities.

Mr. Fernando S. Souto, Deputy Director-General, Department for Industrial Promotion, Consultations and Technology, UNIDO, welcomed the participants and conveyed to them the greetings and best wishes of the Director-General of UNIDO.

He noted that scientific-technological information services are a main component of UNIDO activities in the technological field. He emphasized that development of UNIDO services depends on national support and the ability to use information. However, the main purpose of this Workshop was to strengthen the focal points and their relations with one another and with UNIDO. He thanked the participants for attending, stating that their deliberations will hopefully provide useful inputs

to forthcoming UNIDO programmes for several years to come. He thanked the Soviet host organizations for the excellent arrangements and hospitality that would no doubt contribute to the success of the meeting.

Mr. J. Prokhorov representing the USSR State Committee for Science and Technology welcomed the participants to Moscow and considered this to be one of the more important meetings held in the USSR since UNIDO became an independent organization. He noted that the organization of the meeting reflected the new arrangements of UNIDO to serve all its members. Many issues relating to industrial development call for scientific–technological information, hence this meeting was arousing considerable interest among Soviet specialists. He thanked the staff of ICSTI for their efforts in organizing the meeting and expressed his best wishes to every participant and for the success of the meeting.

Professor P.V. Nesterov, Director of VINITI, and representing FID, reviewed the historical development of FID, which now includes 70 national members and 300 members from 90 countries working together to promote the exchange of information through co-operation in all fields of knowledge. He noted that FID has good working relations with UNIDO and emphasized that co-operation is the motto of the age.

### Election of Officers

The meeting was invited to elect a chairman, alternate chairman and rapporteur. The meeting unanimously elected:

1. Chairman: Professor Adam Wysocki, Adviser, Institute for Scientific, Technical and Economic Information (ISTEI) Warsaw, Poland

2. Alternate Chairman: Mr. A. V. Butrimenko, Director, International Centre for Scientific and Technological Information (ICSTI), Moscow, USSR

3. Rapporteur: Mr. U. A. El-Kholy, Senior Adviser, Kuwait Institute of Scientific Research, Safat, Kuwait

## III. WORKING SESSIONS

### Review of the reports from the National Focal Points

The main item on the agenda was the review and discussion of 29 national reports prepared by the representatives of the NFPs from four geographic regions: Africa, Asia, Latin America and the Caribbean, and

East European countries. Each report dealt with the issues outlined in the Aide-Memoire circulated by UNIDO with invitations to attend. Each country has developed its own organization to suit the varied industrial, information and managerial levels of development, with one national body nominated as the NFP. Approaches and methods of information processing and dissemination varied from the conventional to the modern with considerable variation in the quantity and quality of hardware, software, communication facilities and manpower capabilities.

There was general agreement, however on the need to develop effective two-way mechanisms for information flow, at the national, regional and international levels and to upgrade information systems and operating practices continuously to suit the stages of development of national industry and its changing capabilities and needs, particularly priority types of information, through surveys and feedback processes.

Eleven reports from the African region were unanimous in giving high priority to manpower development in the various specializations needed to operate effective industrial information systems and services. They emphasized the importance and great need for such information systems for potential users at various levels and in different sectors and to enhance the cabilities of the NFPs, and consequently their credibility. In several cases the absence of an adequate communication infrastructure was cited as another major obstacle in the development of the NFPs. In almost all countries, SMEs were singled out as the most important actual or potential users of INTIB services. In this respect, they pointed out the value of surveys carried out to identify specific information needs for specific industrial sectors, relating this to the acquisition of detailed information about INTIB data bases and other types of information, particularly on technologies. A number of reports suggested that INTIB should also handle industrial and technological information generated within the member countries and disseminate it throughout INTIB network. They also proposed co-operative programmes in training, exchange of expertise and personnel and other forms of South–South co-operation.

The seven reports presented by Asian countries again showed a wide variety in national situations, capabilities and experiences. In some countries, the industrial information centres are the hubs of networks connected to users and nodes by telephone and relay lines, while few countries use satellite communication. The centres serve large-, medium- and small-scale enterprises although all of them are confronting some problems in providing information suitable for the needs of SMEs. The spectrum of needs is very broad, ranging from new products and technological innovations to management, administration, trade and

finance. The main problems faced by the NFPs are the difficulties encountered in obtaining information and repackaging it in a suitable form, problems of telecommunication, organization of NFPs, the unification of methods and codes and the shortage of qualified manpower. Proposals were made for the sharing of experiences amongst member countries, for assistance to NFPs through the provision of tools and equipment, and for the organization of international training courses in INTIB operations. Other suggestions were for assistance in the acquisition of documents, the establishment of on-line links with UNIDO/INTIB in Vienna, advice on networking and on the acquisition of other types of industrial information, e.g. business practices and legal aspects of technology transfer.

The four reports of the Eastern European countries reflected a somewhat different scene, since all countries are members of the International Centre for Scientific and Technological Information (ICSTI) in Moscow and have developed industrial information systems and services and adequate communication facilities. However, the choice of an institution as the NFP has varied from country to country so as to suit local conditions and national priorities. Several countries expressed their willingness to provide the INTIB technology data base with information on their technologies, to assist UNIDO/INTIB in the development of software, codes, tools and methods, as well as in organizing training courses, and the preparation of training material in INTIB operations. Member countries were also invited by one representative to participate in INTERNET, which will be providing information in a number of very specific and specialized fields. Some delegates expressed their willingness to support the development of an expert system for the evaluation of products and technologies, and to provide information on industrial patents in their countries. It was remarked that while the location and structure of the NFP may change from country to country, the national nodes should be chosen to relate to well-defined fields of INTIB activity. Some participants emphasized the importance of developing capabilities and methods in the evaluation of technologies and products at the local level. Calls were also made to aim at making the NFPs self-supporting through contributions, both from the suppliers and users of industrial and technological information.

There were also five reports from Latin American and Caribbean countries, which showed that around two thirds of industrial enterprises are SMEs. Since large-scale industrial enterprises have their own information systems, the SMEs are the main actual, or potential, users of INTIB services. Experience has shown that the NFPs need to have adequate infrastructures in order to fulfil their task effectively. Emphasis is placed on the need to provide information in a structured form suitable for the needs of the users in SMEs. The NFPs are called upon to exert

more effort in strengthening their relations with the users, and in surveying their needs and analyzing the feedback received from them. Assistance is needed from UNIDO/INTIB in developing such capabilities in the NFPs. All reports emphasized once more the imperative of training in the variety of specializations needed to operate an effective NFP. Some participants called upon UNIDO to support RITLA when it becomes fully operational. Suggestions were also made for co-operative training programmes, exchange of experiences and surveys of existing networks. Again the packaging of information, this time in the national languages, was emphasized.

**Reports of National, Regional and International Organizations:**

Three regional reports were presented and discussed. First, the ARCT report reviewed its activities as an INTIB RFP in Africa, supporting the NFPs in its Member States. It emphasized the basic need of a good communications infrastructure for the effective operation of a regional network of NFPs and suggested a well co-ordinated monitoring activity of the operation of the NFPs, to be reviewed by a joint UNIDO/Regional Centre Committee meeting once a year to elaborate the tasks needed for improving tools, methods of exchange of information, funding and staff training.

The experience of the APCTT was markedly different and reflected the stage of industrial development and historical depth of many of its Member States and of the centre itself. APCTT has developed useful approaches to the issues of technological policy, evaluation, acquisition and exploitation, which could be made available to the INTIB Network.

The ALIDE representative noted the high interest of industrial development banks in Latin-American countries for technological information in order to improve the process of evaluation and financing of projects. ALIDE offered its services for this purpose and will submit concrete proposals to UNIDO. The representative from France expressed his appreciation of the quality of the papers presented and the high standard of the discussions and expressed his Government's readiness to co-operate in the collection of industrial information in French from various sources in France through direct access using software in French for the francophone NFPs, as well as in the compilation of catalogues or investment opportunities in different countries and various industrial sectors for potential investors in France.

The representative from IDRC pointed out that the Centre has been dealing with many regional and national INTIB focal points and has sought to re-inforce their capabilities in harmony with the efforts of international organizations and in the framework of UNIDO activities and

especially in the field of industrial and technological information. He commended UNIDO publications as a useful source of information adapted to the needs of developing countries and called on the developing countries to make more use of them. He recommended providing the IDA data base on Micro CDS/ISIS, as well as a selection of UNIDO documents on microfiche. He stated that IDRC is prepared to consider giving assistance in the establishment of electronic communication between focal points through involvement of IDRC's Information Science Division in assessing new information and communication technologies, e.g. computer-based messaging, teleconferencing, CD-ROMs, packet-switching satellite communication, particularly in Africa. Owing to the limitations on resources, he suggested that UNIDO and IDRC consider implementing joint or complementary projects in supporting INTIB focal points and nodes.

Two UN Organizations participated in the meeting. The ILO representative reviewed the developments leading to the start of INSTEAD operations in 1988, describing the services it provides. He referred to the co-operation between ILO and UNIDO in the collection, processing and dissemination of industrial and technological information and in joint publications, exchange of documents and abstracts. He expressed the willingness of ILO to co-operate with the NFPs, particularly in serving small and rural industry, which has been the focus of attention of ILO for several years. In particular ILO offers INSTEAD services free of charge to all NFPs. It is also authorising them to translate and reproduce ILO documents and would be happy to assist the NFPs in strengthening their capabilities.

The representive of UNEP drew attention to the growing importance of environmental considerations in industrial development and reviewed the activities and information services and systems developed by UNEP, and more specifically by the IEO in Paris, to serve industry in developing and developed countries. These cover referral systems, data bases, query services, networks and publications. He concluded by inviting the NFPs to avail themselves of UNEP services and systems in providing the variety of types of information and specific technical assistance on environmental issues they may need in supporting industrial development in their countries.

The FID representative noted with satisfaction that contact has been established with UNIDO and is beginning to bear fruit. For example, FID has just completed one study for UNIDO. He drew attention to the FID specialized committee on industrial information and the forthcoming conference later this year on information as a strategic tool for industrial competitiveness. The theme of the congress is "Information, Knowledge, Evolution." FID already has two regional commissions (Asia–Oceania

and Latin America) and one for Africa is being formed. He welcomed intellectual contributions from member countries to the FID journal, the *International Forum on Information and Documentation.*

The representative of VINITI drew attention to the fact that his institute has been co-operating closely with UNIDO for many years, particularly in organizing training courses, in three languages, to upgrade skills of industrial information officers, both theoretically and practically.

### Future Development of INTIB

A report by a UNIDO expert gave an interesting and informative review of current and expected trends in the field of international co-operation in scientific–technological and industrial information. The workshop proceeded to discuss the impact of those trends on the future development of INTIB and its operations.

In view of the remarkable development in INTIB activities since the Advisory Group meeting held less than two years ago, and the rapid and radical developments in the international information scene as highlighted in that report, the participants agreed that it was necessary to discuss in some depth ideas regarding future development of INTIB that would distinguish it as the source of types of information it specializes in. Because of the urgent need to integrate scientific and technological information with many other types of specialized information to serve the needs of industrial development, it is suggested that UNIDO/INTIB:

- Establish and/or strengthen linkages with other UN Organizations working in the field at the operational level;

- Provide NFPs with directories on reliable sources of other information relevant to industrial development in general;

- Continue its efforts in developing expert systems for the selection of the best sources for particular types of information.

As far UNIDO's position in the information market, soon to be dominated by commercial data bases supported by heavy investments, UNIDO/INTIB, could – apart from maintaining its highly specialized data bases as mentioned above – expand its programme of activities, particularly in training, assistance and guidance in establishing, operating and managing FPs, in developing appropriate software, and building national capabilities in the repackaging of information for developing countries, particularly SMEs at the local level.

It was also noted that UNIDO should – as a matter of policy – integrate its information activities with other technical assistance operations, particularly its advisory and extension services.

A typology for the organization of INTIB made up of a hierarchy of three tiers was suggested. At the national level, NFPs collect and deliver information and co-ordinate industrial information activities in the country. At the regional level, services, procedures and programmes are co-ordinated and assistance provided in establishing NFPs. At the international level, activities proceed at the global level, linking with different data bases, operating query services and supporting regional and national focal points. Information should flow up and down smoothly between the three levels through clear communication channels.

As for the question of charging the users of INTIB services, the participants drew attention to the ethical dimension in charging at the local level for services obtained free from Vienna. On the other hand, it was felt that with the constraints on financial resources coupled with the expansion in INTIB activities, which is expected to continue at an accelerated rate, it may become necessary to consider ways and means for a pattern of operation that will be self-supporting to increasing degrees. In all cases, the needs of the countries, particularly those at an early stage of industrial development, must transcend financial considerations. On the other hand, cost reduction approaches, particularly through co-operative efforts and voluntary contributions, should be pursued vigorously.

As for interfacing of the INTIB Global Network with other electronic information systems there was concensus that UNIDO should vigorously promote the adoption of international standards developed by ISO and CCITT as they come out and help all Member States in adopting them.

Finally, on the question of serving the needs of SMEs, which are in the majority in member countries and which need industrial information services the most, the role of advisory and extension services in packaging information in the appropriate manner was emphasized once more. Such services need to be as close as possible to the SME. The meeting urged UNIDO to include an INTIB component in all its technical assistance programmes and projects. In this respect, the preparation of audio-visual aids, particularly a library of video tapes suited to the needs of SMEs, was suggested by some delegates and received unanimous endorsement.

**Presentations and training sessions:**

Presentations were made on:

- IBM Value Added Networks;

- UNIDO/IBM Electronic Mail Communication Network;

- INTIB data bases (OFFR/VENT/REQT/NODE/IDA) and the National Industrial Statistics Programme (NISP).

Presentations and/or training sessions were organized for all the participants organized into regional groups.

A list of documents and country papers appears in Annex III.

## IV. ADOPTION OF THE REPORT

After detailed discussions, the workshop adopted the Report. The workshop made a strong recommendation to UNIDO and the Member States for early implementation of the activities suggested at the workshop.

## V. ACKNOWLEDGEMENTS

The workshop expressed its deep appreciation for the efforts made by UNIDO, GKNT, and ICSTI for the organization of the workshop and offered special thanks to ICSTI for providing excellent host facilities.

### ANNEX I List of participants and observers

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## Annex II Workshop Programme

*Monday, 30 May 1988*

| | |
|---|---|
| 10.00–10.30 | Registration |
| 10.30–11.30 | Opening ceremony<br>Welcoming Address by ICSTI Director<br>Address by GKNT Representative<br>Address by UNIDO Representative<br>Election of Chairman and Rapporteur |
| 12.00–12.30 | Introduction of Global INTIB Networking:<br>Objectives, Developments and Achievements by<br>UNIDO Secretariat<br>Discussion |
| 14.30–15.30 | Presentation on IBM Value Added Network Services by<br>Mr. L.G. McKenna<br>Discussion |
| 15.45–17.00 | Introduction of Trends of International Co-operation in Scientific, Technical and Industrial Information<br>by Prof. A. Wysocki, UNIDO Consultant<br>Discussion |

*Tuesday, 31 May 1988*

| | |
|---|---|
| 10.00–13.30 | Review of African Region National/Regional Focal Points (NFPs) papers<br>Discussion |
| 14.30–17.00 | Review of Latin American and Caribbean Regions National/Regional Focal Points papers<br>Discussion |

*Wednesday, 1 June 1988*

| | |
|---|---|
| 10.00–11.30 | Review of Asian Region National/Regional Focal Points papers<br>Discussion |
| 11.45–13.30 | Review of East European Region National/Regional Focal Points papers |
| | Presentation by representatives of international/regional organizations and developed countries<br>Discussion |
| | Demonstration of UNIDO/IBM Electronic Mail Communications Network |
| 14.30–17.00 | Training on INTIB databases (OFFR/VENT/REQT/NODE and IDA) and National Industrial Statistics Programme (NISP) |
| | Drafting of concrete work programme and projects by regional groups |

*Thursday, 2 June 1988*

| | |
|---|---|
| 10.00–13.30 | Training and drafting of work programme continued |
| 14.30–17.00 | Preparation of report |

*Friday, 3 June 1988*

| | |
|---|---|
| 09.30–11.30 | Preparation of report continued |
| 11.45–13.30 | Adoption of workshop recommendations and INTIB focal points work programme |
| 14.30–17.00 | Study tour |

## Annex III List of Documents and Country Papers

1. Aide-Memoire

2. UNIDO Industrial and Technological Information Programme: Present Status and Future Development – UNIDO Secretariat paper

3. International Co-operation in the Information Field: Some new Trends and Tendencies by Prof. A. Wysocki

4. L'entreprise Nationale d'organisation et d'information, Point Focal National pour la Connexion avec le Reseau INTIB by L. Ouiguini, Algeria

5. Industrial Information in Cameroon by Mr. G. Nkodo

6. Industrial Information Development in Egypt by Dr. H. El Sherif and Mrs. Effat El Shooky

7. Information System in Ethiopia: A Brief Introduction by Mr. Petros Kasahun

8. Industrial and Technological Information in Ghana by Mr. M.N.B. Ayiku

9. INTIB National Focal Point in Kenya: Country Report by Mr. P.B. Imende

10. Industrial Information Networking and Co-operation: Nigerian Position by Mr. R.O. Sodipe

11. L'Information Industrielle et Technologique au Rwanda by Mr. J. Ndagiwenimana

12. Industrial and Technological Information in Senegal by Mr. A.M. Gaye

13. The Industrial and Technological Information Environment in Tanzania by Mrs. W.N.A. Nyonyi and S.N. Ole - Teveli

14. Tunisian National Paper on Industrial and Technological Information by Mr. D. Faouzi

15. The National Focal Point in China: China International Economic Information Centre by Mr. Dimo Zhang

16. The General Situation of National Information Service, the Information needs of Chinese Enterprises, and the Present Reform of the Scientific and Technical Information System in China by Mr. Wang Xi

17. Industrial and Technological Information: India by Mr. Vinay Kumar

18. The National Scientific and Technical Information System of the D.P.R. Korea and Strengthening the National Focal Point in the INTIB Focal Point Network by Mr. S.C. Kim and Mr. H.H. Ryong

19. Industrial and Technological Information in Mongolia (Russian) by Mr. B. Tsogoo

20. Towards a more Responsive Industrial Information Networking and Co-operation for the Philippines by Mrs. Elena D. Roaring

21. Vietnam Country Paper on Industrial and Technological Information by Dr. D.G. Dinh and T.T. Dung

22. Survey of the Scientific and Technical Information Services and Telecommunications Provisions in Bulgaria by Mr. B. Fotev

23. Czechoslovak Standpoint to INTIB Focal Point by V. Talasek

24. Technology Transfer from the GDR by L. Zaenker

25. Industrial and Technological Information in Turkey by Ms. F.A. Gumrukcuoglu

26. Industrial and Technological Information in Brazil: Present Situation and Trends by A.A. Briquet de Lemos

27. State of the Art of Scientific and Technical Information in Cuba by Mr. E.B. Gonzalez

28. Creation of an Industrial and Technological Information Centre in Mexico by J.A. Esteva Maraboto

29. Industrial and Technological Information in Peru by Mr. L. Casanova-Galvez

30. Towards Strengthening of INTIB Focal Point - CARIRI - within the context of Industrial and Technological Information Needs of Trinidad and Tobago by Mrs. Barbara Gumbs

31. The African INTIB Sub-Network: Experience and Perspectives by Mr. M. Timoulali

32. Strengthening Technology Information Services in Asia and the Pacific: The Role of APCTT by Mr. S.M. Junaid Zaidi

33. The Role of ALIDE and Latin American Development Banks Regarding Technological Information by Mr. Rommel Acevedo

34. IDRC Industrial Information Programme and Co-operation with UNIDO by Mr. Renald Lafond

35. ILO/UNIDO Collaboration for the Joint Dissemination of Technological Information through National Focal Points by Mr. M. Allal

36. UNEP/Industry and Environment Information System by Mr. B.Y. Megherbi

37. IBM Value Added Network Services by Mr. L.G. McKenna

38. Texte de l'Intervention Francaise by Mr. Charles Colas